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EXAMINER

TADESSE, YEWEBDAR T

ART UNIT	PAPER NUMBER
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1734

DATE MAILED: 03/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/921,840

Applicant(s)

CURTIS ET AL.

Examiner

Yewebdar T Tadesse

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 13-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/11/01.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-12, drawn to an apparatus, classified in class 118, subclass 52.
 - II. Claims 13-16, drawn to a method, classified in class 216, subclass 93.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions II and I are related as method and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the method of cleaning the semiconductor wafer can be performed without use of the apparatus. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

3. During a telephone conversation with Ken Ohriner on Feb. 24, 2005, a provisional election was made without traverse to prosecute Invention I, claims 1-12. Affirmation of this election must be made by applicant in replying to this Office action. Claims 13-16 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

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4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Drawings

7. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "510" (see Figs 9-10) has been used to designate both outlet and cup. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each

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drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Double Patenting

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 1-2 and 6-7 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 8 of U.S. Patent No. 6,350,319 in view of Bergman (US 5,500,081).

As to claim 1, claims 1 and 8 of US'319 discloses every aspects of the claimed invention except at least one outlet at a peripheral region of the chamber and a sump connected via supply lines to the fluid inlet and the fluid outlet. Bergman discloses (see Fig 2 and column 9, lines 39-52) processing chamber having an outlet at the peripheral

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region (an outlet 151 connected to the perimeter trench 117) and a sump (see reservoir 60 on Fig 1) connected via supply lines (feed line 61) to the fluid inlet (66) and the fluid outlet (51, 151). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include at least one outlet at a peripheral region of the chamber and a sump connected via supply lines to the fluid inlet and the fluid outlet in '319 to create vapor or fluid circulation at the bottom surface of the substrate and to recycle processing fluid respectively as taught by Bergman.

As to claim 2, US'319 lacks claiming a cup surrounding the housing and positioned to collect fluid exiting the fluid outlet and direct the collected fluid to the sump. Bergman discloses (see Figs 1-2) a cup (14, 114) surrounding the housing and positioned to collect fluid exiting the fluid outlet (51,151) and to direct it to the sump (reservoir 60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a cup surrounding the housing in '319 to enclose the processing area or to retain the processing fluid within the chamber.

With respect to claim 6, US'319 lacks teaching the chamber conforming the shape of the workpiece. Bergman teaches (see Fig 7 and column 12, lines 19-21) a disk-shaped chamber (having shroud 313) for holding disk-shaped substrate. It would have been obvious to one of ordinary skill in the art at the time the invention was made to shape the chamber conforming the shape of workpiece in '319 to efficiently apply and use processing fluid.

With respect to claim 7, US'319 lacks teaching a substantially closed chamber. Bergman discloses a closed chamber (16, see Fig 1). It would have been obvious to

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one of ordinary skill in the art at the time the invention was made to include substantially closed chamber in '319 to confine the processing fluid within the chamber.

10. Claim 3 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 8 of U.S. Patent No. 6,350,319 in view of Bergman (US 5,500,081) as applied to claim 1 above and further in view of Orr (US 3,727,620). US'319 lacks teaching a plurality of workpiece supports in the chamber for supporting the workpiece. Orr discloses (see Fig 1) a plurality of workpiece supports (a basket 13 having slots) in the chamber for supporting workpiece. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a plurality of workpiece supports in the chamber '319 to cut processing time by treating plurality of substrates at one time.

11. Claim 5 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 8 of U.S. Patent No. 6,350,319 in view of Bergman (US 5,500,081) as applied to claim 1 above and further in view of Orr (US 3,727,620). US '319 lacks teaching a fluid inlet aligned on an axis of rotation of the housing. Orr discloses (see Fig 4) a fluid inlet (43) aligned on an axis of rotation of the housing. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a fluid inlet aligned on an axis of the rotation in '319 to uniformly supply the processing fluid towards the substrate.

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12. Claims 1, 2, 4, 6-7 and 12 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 15 of U.S. Patent No. 6,494,956 in view of Bergman (US 5,500,081).

As to claims 1, 4 and 12, Claims 1 and 15 of US'956 discloses every aspects of the claimed invention except at least one outlet at a peripheral region of the chamber and a sump or a recirculation means connected via supply lines to the fluid inlet and the fluid outlet. Bergman discloses (see Fig 2 and column 9, lines 39-52) processing chamber having an outlet at the peripheral region (an outlet 151 connected to the perimeter trench 117) and a sump (see reservoir 60 on Fig 1) connected via supply lines (feed line 61) to the fluid inlet (66) and the fluid outlet (51, 151). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include at least one outlet at a peripheral region of the chamber and a sump connected via supply lines to the fluid inlet and the fluid outlet in '956 to create vapor or fluid circulation at the bottom surface of the substrate and to recycle processing fluid respectively as taught by Bergman.

As to claim 2, US'956 lacks claiming a cup surrounding the housing and positioned to collect fluid exiting the fluid outlet and direct the collected fluid to the sump. Bergman discloses (see Figs 1-2) a cup (14, 114) surrounding the housing and positioned to collect fluid exiting the fluid outlet (51,151) and to direct it to the sump (reservoir 60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a cup surrounding the housing in '956 to enclose the processing area or to retain the processing fluid within the chamber.

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With respect to claim 6, US'956 lacks teaching the chamber conforming the shape of the workpiece. Bergman teaches (see Fig 7 and column 12, lines 19-21) a disk-shaped chamber (having shroud 313) for holding disk-shaped substrate. It would have been obvious to one of ordinary skill in the art at the time the invention was made to shape the chamber conforming the shape of workpiece in '956 to efficiently apply and use processing fluid.

With respect to claim 7, US'956 lacks teaching a substantially closed chamber. Bergman discloses a closed chamber (16, see Fig 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include substantially closed chamber in '956 to confine the processing fluid within the chamber.

13. Claim 3 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 8 of U.S. Patent No. 6,494,956 in view of Bergman (US 5,500,081) as applied to claim 1 above and further in view of Orr (US 3,727,620). US'956 lacks teaching a plurality of workpiece supports in the chamber for supporting the workpiece. Orr discloses (see Fig 1) a plurality of workpiece supports (a basket 13 having slots) in the chamber for supporting workpiece. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a plurality of workpiece supports in the chamber in '956 to cut processing time by treating plurality of substrates at one time.

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14. Claim 5 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 8 of U.S. Patent No. 6,494,956 in view of Bergman (US 5,500,081) as applied to claim 1 above and further in view of Orr (US 3,727,620). US '956 lacks teaching a fluid inlet aligned on an axis of rotation of the housing. Orr discloses (see Fig 4) a fluid inlet (43) aligned on an axis of rotation of the housing. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a fluid inlet aligned on an axis of the rotation in '956 to uniformly supply the processing fluid towards the substrate.

15. Claims 1-2 and 6-7 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 8 of U.S. Patent No. 6,695,914 in view of Bergman (US 5,500,081).

As to claim 1, claims 1 of US'914 discloses every aspects of the claimed invention except at least one outlet at a peripheral region of the chamber and a sump connected via supply lines to the fluid inlet and the fluid outlet. Bergman discloses (see Fig 2 and column 9, lines 39-52) processing chamber having an outlet at the peripheral region (an outlet 151 connected to the perimeter trench 117) and a sump (see reservoir 60 on Fig 1) connected via supply lines (feed line 61) to the fluid inlet (66) and the fluid outlet (51, 151). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include at least one outlet at a peripheral region of the chamber and a sump connected via supply lines to the fluid inlet and the fluid outlet in

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'914 to create vapor or fluid circulation at the bottom surface of the substrate and to recycle processing fluid respectively as taught by Bergman.

As to claim 2, US'914 lacks claiming a cup surrounding the housing and positioned to collect fluid exiting the fluid outlet and direct the collected fluid to the sump. Bergman discloses (see Figs 1-2) a cup (14, 114) surrounding the housing and positioned to collect fluid exiting the fluid outlet (51,151) and to direct it to the sump (reservoir 60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a cup surrounding the housing in '914 to enclose the processing area or to retain the processing fluid within the chamber.

With respect to claim 6, US'914 lacks teaching the chamber conforming the shape of the workpiece. Bergman teaches (see Fig 7 and column 12, lines 19-21) a disk-shaped chamber (having shroud 313) for holding disk-shaped substrate. It would have been obvious to one of ordinary skill in the art at the time the invention was made to shape the chamber conforming the shape of workpiece in '914 to efficiently apply and use processing fluid.

With respect to claim 7, US'914 lacks teaching a substantially closed chamber. Bergman discloses a closed chamber (16, see Fig 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include substantially closed chamber in '914 to confine the processing fluid within the chamber.

16. Claim 3 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 8 of U.S. Patent No.

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6,695,914 in view of Bergman (US 5,500,081) as applied to claim 1 above and further in view of Orr (US 3,727,620). US'914 lacks teaching a plurality of workpiece supports in the chamber for supporting the workpiece. Orr discloses (see Fig 1) a plurality of workpiece supports (a basket 13 having slots) in the chamber for supporting workpiece. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a plurality of workpiece supports in the chamber '914 to cut processing time by treating plurality of substrates at one time.

17. Claim 5 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 8 of U.S. Patent No.

6,695,914 in view of Bergman (US 5,500,081) as applied to claim 1 above and further in view of Orr (US 3,727,620). US '914 lacks teaching a fluid inlet aligned on an axis of rotation of the housing. Orr discloses (see Fig 4) a fluid inlet (43) aligned on an axis of rotation of the housing. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a fluid inlet aligned on an axis of the rotation in '914 to uniformly supply the processing fluid towards the substrate.

18. Claims 9-11 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 2 of U.S. Patent No.

6,692,613 in view of Bergman (US 5,500,081).

As to claims 9-10, Claims 1 and 2 of US'613 discloses every aspects of the claimed invention except at least one fluid outlet in the first rotor, a sump linked to the

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fluid inlet and the fluid outlet and a motor connected to the rotor. Bergman discloses (see Fig 2 and column 9, lines 39-52) processing chamber comprising a first and second rotor part (see Fig 7) having an outlet (an outlet 51, 151 and a sump (see reservoir 60 on Fig 1) connected via supply lines (feed line 61) to the fluid inlet (66) and the fluid outlet (51, 151). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include at least one outlet and a sump connected via supply lines to the fluid inlet and the fluid outlet in '613 to drain spent processing fluid and to recycle the processing fluid respectively as taught by Bergman. As to the motor, Bergman teaches (see Fig 7) a motor (359) provided for the rotor positioning mechanism 250. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a motor for one of the rotor in '613 to rotate the wafer.

With respect to claim 11, rotation of US'613's rotor as modified is capable of drawing fluid from the sump, through the inlet and into the chamber.

Claim Rejections - 35 USC § 102

19. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

20. Claims 1-2 and 6-7 are rejected under 35 U.S.C. 102(b) as being anticipate by Bergman (US 5,500,081).

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As to claim 1, Bergman discloses (see Fig 2 and column 9, lines 39-52) an apparatus for processing a workpiece comprising a housing (10) containing a chamber (16) for holding a workpiece; a fluid inlet (processing fluid supply line 66 and gas inlet port 77) leading into the chamber; at least one fluid outlet at the peripheral region of the chamber (line 151 connected to item 117, see Fig 2) for allowing fluid to exit the chamber (the fluid is capable of exiting the chamber when the centrifugal force applied to the wafer); and a sump (reservoir 60) connected via supply lines (feed line 61) to the fluid inlet (66) and the fluid outlet (51, 151).

With respect to claim 2, Bergman discloses (see Figs 1-2) a cup (14, 114) surrounding the housing and positioned to collect fluid exiting the fluid outlet (51, 151) and to direct it to the sump (reservoir 60).

Regarding claim 6, Bergman teaches (see Fig 7 and column 12, lines 19-21) a disk-shaped chamber (having shroud 313) for holding disk-shaped substrate.

As to claim 7, in Bergman the chamber (16) is substantially closed (see Fig 1).

Claim Rejections - 35 USC § 103

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

22. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

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the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

23. Claims 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergman (US 5,500,081) as applied to claim 1 above, and further in view of Orr (US 3,727,620).

Regarding claim 3, Bergman lacks teaching a plurality of workpiece supports in the chamber for supporting the workpiece. Orr discloses a plurality of workpiece supports (a basket 13 having slots) in the chamber for supporting workpiece. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a plurality of workpiece supports in the chamber of Bergman to cut processing time by treating plurality of substrates at one time.

As to claim 5, Bergman lacks teaching a fluid inlet aligned on an axis of rotation of the housing. Orr discloses (see Fig 4) a fluid inlet (43) aligned on an axis of rotation of the housing. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a fluid inlet aligned on an axis of the rotation in Bergman to evenly distribute the processing fluid towards the substrate.

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24. Claims 1-5, 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Orr (US 3,727,620) in view of Bergman (US 5,500,081).

As to claims 1-2, 4 and 12, Orr discloses (see Figs 1-3) an apparatus for processing a workpiece comprising a housing (16) containing a chamber (62) for holding a workpiece; a motor (77) for rotating the housing (rotary member 16 with shaft 28) and to cause fluid distribution on a workpiece in the chamber 13 and through the fluid outlet via centrifugal force; a fluid inlet (inlets 43,44) leading into the chamber; at least one fluid outlet (94) for allowing fluid to exit the chamber via centrifugal force and a cup (tub 18) surrounding the housing (16 and 28) and positioned to collect fluid exiting the fluid outlet. Orr lacks teaching an outlet positioned at a peripheral region of the chamber and a sump connected via supply lines to the fluid inlet and the fluid outlet. Bergman discloses (see Fig 2 and column 9, lines 39-52) processing chamber having an outlet at the peripheral region (an outlet 151 connected to the perimeter trench 117) and a sump (see reservoir 60 on Fig 1) connected via supply lines (feed line 61) to the fluid inlet (66) and the fluid outlet (51, 151). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include at least one outlet at a peripheral region of the chamber and a sump connected via supply lines to the fluid inlet and the fluid outlet in Orr to create fluid circulation and to recycle processing fluid as taught by Bergman.

Regarding claim 3, Orr discloses a plurality of workpiece supports (basket having plurality of slots) in the chamber for supporting the workpiece.

With respect to claim 5, Orr discloses (see Fig 4) a fluid inlet (43) aligned on an axis of rotation of the housing.

Regarding claim 8, In Orr the housing comprises a first rotor (16), engageable with a second rotor (shaft 28) to form a processing chamber (62) between them (see Fig 3).

As to claims 9-10, Orr discloses (see Figs 1-3) an apparatus for processing a workpiece comprising a housing (16) containing a chamber (62) for holding a workpiece; a first rotor (16); a second rotor (shaft 28) engageable with the first rotor to form a processing chamber (62); a motor (77) for rotating the rotors (rotary member 16 with shaft 28); a plurality of workpiece supports (a basket 13 having slots) on the rotors; at least one fluid inlet (inlets 43,44) leading into the chamber; at least one fluid outlet (94) for allowing fluid to exit the chamber. Orr lacks teaching a sump linked to the fluid inlet and the fluid outlet. Bergman discloses (see Fig 2 and column 9, lines 39-52) a processing chamber having a sump (see reservoir 60 on Fig 1) connected via supply lines (feed line 61) to the fluid inlet (66) and the fluid outlet (51, 151). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a sump connected via supply lines to the fluid inlet and the fluid outlet in Orr to recycle processing fluid as taught by Bergman.

With respect to claim 11, rotation of Orr's rotor as modified is capable of drawing fluid from the sump, through the inlet and into the chamber.

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25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nanbu et al (US 5,565,034).

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yewebdar T Tadesse whose telephone number is (571) 272-1238. The examiner can normally be reached on Monday-Friday 8:00 AM-4: 30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Fiorilla can be reached on (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


YTT


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SUPERVISORY PATENT EXAMINER
AU 1734